METHOD AND SYSTEM OF PROVIDING MULTI-USER
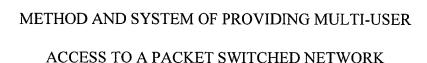
ACCESS TO A PACKET SWITCHED NETWORK

ABSTRACT OF THE DISCLOSURE

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An approach for providing multi-user access to a packet switched network via a shared Ethernet-based local area network (LAN) is disclosed. Multiple end user stations are connected to the LAN, in which each of end user stations executes a communication software. The communication software is based upon a communication protocol (e.g., Point-to-Point Protocol (PPP)) that establishes a point-to-point communication session. The end user stations generate packets based upon the communication protocol. In addition, each of the end user stations selectively encapsulates the communication protocol packets using the Ethernet-based LAN protocol. Further, attached to the LAN is a customer premise equipment (CPE), which transmits the encapsulated packets to a line terminating equipment, which according to one embodiment is a digital subscriber line (DSL) access multiplexer that is located in a central office. The line terminating equipment transports the multiple PPP sessions to a multiplexer/demultiplexer, which is located within a regional carrier's network. In one embodiment, the multiplexer/demultiplexer is an Asynchronous Transfer Mode (ATM) switch, which simultaneously transports the multiple PPP sessions over a single permanent virtual circuit (PVC); VPI/VCIs (Virtual Path Identifier/ Virtual Connection Identifier) are mapped to the multiple PPP sessions. The multiple PPP sessions are terminated at a remote access server, which recovers and forwards the packets to a backbone router. Thereafter, the backbone router forwards the packets to the packet switched network.